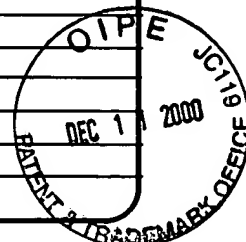


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Substitute for form 1449B/PTO <h2 style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center;">(use as many sheets as necessary)</p>		Complete if Known <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>09/656,742</td> </tr> <tr> <td>Filing Date</td> <td>09/07/2000</td> </tr> <tr> <td>First Named Inventor</td> <td>Yuriy Reznikov</td> </tr> <tr> <td>Group Art Unit</td> <td>2871</td> </tr> <tr> <td>Examiner Name</td> <td></td> </tr> <tr> <td>Attorney Docket Number</td> <td>KSU-188</td> </tr> </table>		Application Number	09/656,742	Filing Date	09/07/2000	First Named Inventor	Yuriy Reznikov	Group Art Unit	2871	Examiner Name		Attorney Docket Number	KSU-188
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Attorney Docket Number	KSU-188														
Sheet	1	of	3												



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1A		A. DYADUSKA, ET AL., Ukr. Fiz. Zh. 36, 1059 (1991)	X
		T. MARUSII AND YU. REZNIKOV, "Photosensitive Orientants for Liquid Crystal Alignment," Mol. Mat. 1993, Gordon and Breach Science Publishers, p. 161-168,	
		M. SCHADT, ET AL., "Surface-Induced Parallel Alignment of Liquid Crystals by Linearly Polymerized Photopolymers," Jpn. J. Appl. Phys, Vol. 31 (No. 7), p. 2155-2164, (March 7, 1992).	
		J. CHEN ET AL., "Model of Liquid Crystal Alignment by Exposure to Linearly Polarized Ultraviolet Light," Physical Review E, The American Physical Society, Vol. 54 (No. 2),	
		JAE-HOON KIM ET AL., "Alignment of Liquid Crystals on Polyimide Films Exposed to Ultraviolet Light," Physical Review E, The American Physical Society, Vol. 57 (No. 5), (December 6, 1998).	
		SHAO-TANG SUN ET AL., "Alignment of Guest-Host Liquid Crystals With Polarized Laser Light," Liquid Crystals, Taylor & Francis Ltd., Vol. 12 (No. 5), p. 869-874, (June 17, 1992).	
		DMITRY VOLOSHCHENKO ET AL., "Control of an Easy-Axis on Nematic-Polymer Interface by Light Action to Nematic Bulk," Jpn J. Appl. Phys., p. 556-571, (February 6, 1995).	
		G. MAGYAR ET AL., "Light Induced LC Alignment on the Isotropic Non-Photosensitive Surface," Mol. Cryst. Liq. Cryst., p. 71-79, (December 6, 1999).	
		G. BAUR, ET AL., "Determination of the Tilt Angles at Surfaces of Substrates in Liquid Crystal-Cells," Physics Letters, Vol. 56A (No. 2), p. 142-144, (March 8, 1976).	
		P. ZIHERL, ET AL., "Magnetic Field Controlled Optical Phase Retardation in a Hybrid Nematic Cell," Liquid Crystals, Taylor & Francis Ltd., Vol. 24 (No. 4), p. 607-612, (December 6, 1976).	
		Y. R. SHEN, "Surface Properties Probed by Second-Harmonic and Sum-Frequency Generation," Nature, Vol. 337 (No. 9), p. 519-525, (February 6, 1989).	

Examiner Signature T. Z.	Date Considered 08-19-00
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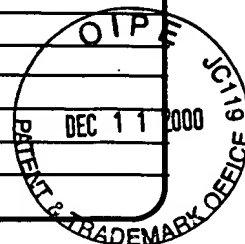
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Sheet	3	of	3	Attorney Docket Number	KSU-188

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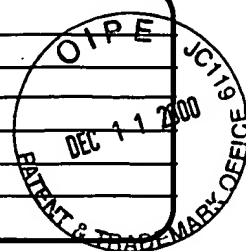
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Sheet 2 of 3	Attorney Docket Number	KSU-188	



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✓		W. CHEN, ET AL., "Investigation of Anisotropic Molecular Orientation Distribution of Liquid-Crystal Monolayers by Optical Second-Harmonic Generation," Physical Review Letters, The America Physical Society, Vol. 63 (No. 24), p.	
		Y. R. SHEN, "Optical Second Harmonic Generation at Interfaces," Annu. Rev. Phys. Chem., p. 327-350, (December 6, 1989).	
		BYOUNGCHOO PARK, ET AL., "Anisotropic Orientational Disbutions of Liquid Crystal Monolayers on Photo-Isomerizable Alignment Polymer Films," Journal-Korean Physical Society, Vol. 30 (No. 2), p. 202-208, (April 6, 1997).	
		M. I. BARNIK, ET AL., "Optical Second Harmonic Generation in Various Liquid Crystalline Phases," Mo. Cryst. Liq. Cryst., Gordon and Breach, Science Publishers (USA), p. 1-12, (December 6, 1983).	
		J. E. PROUST, ET AL., "Orientation of a Nematic Liquid Crystal by Suitable Boundary Surfaces," Solid State Communications, Pergamon Press (Great Britain), p. 1227-1230, (December 6, 1972).	
		K. HILTROP, ET AL., "Contact Angles and Alignment of Liquid Crystals on Lecithin Monolayers," Mol. Cryst. Liq. Cryst., Gordon and Breach Science Publishers, p. 61-65, (December 6, 1978).	
		K. HILTROP, ET AL., "On the Orientation of Liquid Crystals by Monolayers of Amphiphilic Molecules," Ber. Bunsen-Ges. Phys. Chem., p. 582-588, (December 6, 1981).	
		M. DUMONT, "Alignment and Orientation of Chromophores by Optical Pumping," Nonlinear Optics, Overseas Publishers, p. 327-358, (December 6, 1995).	
		S. P. PALTO, ET AL., "Photoinduced Optical Anisotropy in Langmuir Blodgett Films as a New Method of Creating Bistable Anchoring Surfaces for Liquid Crystal Orientation," J. Phys. II - France, p. 133-142, (December 6, 1995).	
		A. G. TERESHCHENKO, ET AL., "Photoinduced Optical Anisotropy in Azopolymer Films," Opt. Spectrosc., Interperiodica Publishing, Vol. 83 (No. 5), p. 747-751, (December 6, 1997).	
		KUNIHIRO ICHIMURA, ET AL., "Photo-optical Liquid Crystal Cells Driven by Molecular Rotors," Appl. Phys. Lett., Vol. 63 (No. 4), p. 449-451, (December 6, 1993).	

Examiner Signature	<i>T. T.</i>	Date Considered	09-19-00
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Sheet 1	of 1	Attorney Docket Number	KSU-188

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11		YURIY REZNIKOV et al. , "Photoalignment of Liquid Crystals by Liquid Crystals," Physical Review Letters, Vol. 84 (No. 9), p. 1930-1933, (February 28, 2000).	
f1		YURIY REZNIKOV et al., "Bulk- and Surface-Mediated Photoalignment of Liquid Crystals by Liquid Crystals," International Conference for Optics of Liquid Crystals, Puerto-Rico, Sept. 25-30, 1999.	

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